

## The spread of herbicide resistant annual ryegrass pollen

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**Summary** *Lolium rigidum* Gaud. (annual ryegrass) is a major agricultural weed commonly found throughout the southern Australian wheatbelt. It is an obligate out-crossing wind pollinated grass species. Populations of this weed have developed resistance to many different herbicides including glyphosate. The current concern relating to the observance of glyphosate resistance in the field has raised issues relating to the gene flow of resistant to susceptible *L. rigidum* plants within populations.

Gene flow through pollen dispersal aids the spread of resistance by the fertilisation of susceptible plants with pollen carrying genes for herbicide resistance (Maxwell and Mortimer 1994). Thus, a field study was conducted during 2001 at Roseworthy, South Australia to determine whether pollen from resistant *L. rigidum* plants could disperse, remain viable and

pollinate susceptible plants both within a crop and in a crop free environment.

Knowledge regarding the importance of the spread of pollen containing the herbicide resistant gene will enable farmers to better understand how herbicide resistant *L. rigidum* is spreading on their properties. Such knowledge will enable them to apply appropriate management strategies to help control this weed.

**Keywords** Annual ryegrass, *Lolium rigidum* Gaud., pollen dispersal, gene flow.

### REFERENCES

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